

CLAIM AMENDMENTS

1-20. (canceled)

1 21. (currently amended) A printing process for obtaining
2 patterns of nanometer and micrometer dimensions on a substrate,
3 comprising the steps of sequentially:

4 forming a solution or suspension of an evaporable liquid
5 and a printing material,

6 applying a layer of the solution or suspension to said
7 substrate,

8 positioning, without applying pressure, of a stamp
9 provided with relief patterns at a distance of 0 nm to 500 μ m from
10 the substrate with the relief patterns in contact with the layer of
11 the solution or suspension,

12 evaporating only the evaporable liquid from said solution
13 or suspension from between the substrate and the stamp without
14 evaporating the printing material so as to draw the suspension or
15 solution by capillarity to the relief patterns and deposit the
16 printing material on the substrate in accordance with the relief
17 patterns of the stamp, and

18 thereafter separating the stamp from the substrate and
19 leaving the printing material on the substrate.

1 22. (currently amended) The process according to claim
2 21, wherein said printing material is chosen from the group
3 consisting of soluble polymers or precursors of polymers.

1 23. (currently amended) The process according to claim
2 22, wherein said printing material is chosen from the group
3 consisting of polyaniline, polyphenylene vinylene,
4 poly(3-alkyl-thienyl) and mixtures thereof.

1 24. (currently amended) The process according to claim
2 21, wherein said printing material is chosen from the group
3 consisting of tris-(quinoline) aluminum, coordination compounds,
4 metallic clusters, rotaxanes, polythiophenes, phthalocyanines, and
5 mixtures thereof.

1 25. (currently amended) The process according to claim
2 21, wherein said printing material is chosen from the group
3 consisting of colloidal substances and nanoparticles.

1 26. (currently amended) The process according to claim
2 25, wherein said printing material is colloidal Au or Ag.

1 27. (currently amended) The process according to claim
2 21, wherein said printing material and/or said solution or
3 suspension is chemically reactive with a surface of said substrate

4 and can produce corrosion, chemisorption, grafting or polymerization
5 of the surface.

1 28. (previously presented) The process according to claim
2 21, wherein said distance is changed during imprinting.

1 29. (previously presented) The process according to claim
2 21, wherein said stamp has multiple protrusions of arbitrary shape
3 and dimensions.

1 30. (currently amended) The process according to claim
2 21, wherein said stamp is a hard stamp, made of chromium, steel,
3 silicon oxide, or a polymer like polymethyl methacrylate, or
4 polycarbonate.

1 31. (currently amended) The process according to claim
2 21, wherein said stamp is a stamp made of elastomeric printing
3 material, ~~preferably polydimethyl siloxane.~~

1 32. The process according to claim 21, wherein said stamp
2 is formed by a thin film of material that floats on said solution.

1 33. (currently amended) The process according to claim
2 21, wherein ~~said evaporation step occurs~~ the evaporable liquid is
3 evaporated from the suspension or solution at a temperature in the
4 interval between -70 and 300 degrees Celsius.

1 34. (previously presented) The process according to claim
2 26, wherein said substrate has a surface area that is orders of
3 magnitude larger than the dimensions of the relief patterns of the
4 stamp.

1 35. (previously presented) The process according to claim
2 21, wherein said stamp is arranged in an inclined configuration with
3 respect to a surface of said substrate, thus producing on the
4 substrate patterns with a spatially variable thickness.

1 36. (previously presented) The process according to claim
2 21, wherein said solution contains multiple printing materials in
3 the form of solutes, said solutes being suitable to precipitate
4 selectively in different times, thus generating controlled
5 nonuniformities of composition in the resulting patterns.

1 37. (previously presented) The process according to claim
2 21, wherein said solution contains imprinting materials in amounts
3 suitable to react in reaction volumes on the order of magnitude of
4 picoliters.

38 - 40. (canceled).

1 41. (new) The process defined in claim 31 wherein the
2 printing material is polydimethyl siloxane.